

REMARKS/ARGUMENTS

1. In the above referenced Office Action, the Examiner rejected claims 1-5, 7-12, 14, and 15 under 35 USC § 102 (b) as being anticipated by Hwu (U.S. Patent No. 6,501,262); and claims 6 and 13 under 35 USC § 103 (a) as being unpatentable over Hwu (U.S. Patent No. 6,501,262). In addition, the Examiner rejected claims 2-5 under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Further, the Examiner objected to the Specification due to an informality. These rejections and objections have been traversed and, as such, the applicant respectfully requests reconsideration of the allowability of claims 1-15.

2. The applicant has amended the title in accordance with the Examiner's suggestion to overcome the informality of the specification.

3. Claims 2-5 have been rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. In particular, the Examiner stated that admittance includes self-admittance and coupled admittance and that these two terms are unclear.

As used in the patent application and implied by the general meaning of the words as used in the art, the term self admittance refers to the admittance produced by the winding itself. Thus, the primary winding has a self

admittance due its inductive properties and the auxiliary winding has a self admittance due to its inductive properties. The coupled admittance refers the inductive properties of one winding affecting the inductive properties of the other to produce a coupled admittance. Thus, the coupled admittance of the primary winding is effectively produced by the auxiliary winding and the coupled admittance of the auxiliary winding is effectively produced by the primary winding. Therefore, the applicant believes that the present 35 USC § 112, second paragraph, rejection is overcome.

4. Claims 1-5, 7-12, 14, and 15 have been rejected under 35 USC § 102 (b) as being anticipated by Hwu. In particular, the Examiner stated that Hwu discloses a vertical transformer, which is an inductive device, the transformer comprises: a primary winding, with a plurality of turns, positioned on a first plane and having a terminal in the center and at an exterior end wherein the center terminal is connected to a center terminal of a secondary winding; a secondary winding, with a plurality of turns, positioned on a second plane, proximally separated from the primary winding by a dielectric substrate, and having a terminal in the center and at an exterior end wherein the center terminal is connected to the center terminal of the primary winding; a conductive surface that forms a plane that is parallel to the planes of the primary and secondary winding, which functions as a ground for the electrical connections; ... Hwu discusses impedance, so it was understood that impedance was simply the inverse of admittance. The applicant respectfully disagrees with the

Examiner's characterization of the present invention in view of the prior art cited.

With respect to claim 1, the present invention claims a unique inductor having a primary winding, which functions as the inductor for coupling into a circuit to receive an input signal, and an auxiliary winding to decrease the primary winding's admittance, thereby increasing the quality factor of the primary winding. As claimed, the primary winding receives the input signal and the auxiliary winding receives a proportionally opposite representation of the input signal provided to the primary winding. As disclosed on page 6, line 6, through page 7, line 19, of the specification, by coupling the auxiliary winding in this manner, it is asymmetrical with respect to the primary winding such that the admittance of the primary winding is effectively decreased, thereby increasing its quality factor. As such, the function of the auxiliary winding is to affect the properties of the primary winding (e.g., its admittance and hence its quality factor).

In contrast, Hwu discloses a transformer having a primary winding and a secondary winding, where the transformer may be in-phase (Figure 1) or out-of-phase (Figure 2). As is generally understood in the art, the function of a transformer is to increase the magnitude of a signal by having more turns on the secondary winding than on the primary winding, to decrease the magnitude of a signal by having less turns on the secondary winding than on the primary winding, to provide electrical isolation, and/or to provide impedance matching. As is also generally understood in the art, the operation of a transformer is

achieved by providing an input signal to one winding (e.g., the primary winding) and, via the magnetic coupling between the windings, produce the desired signal on the other winding (e.g., the secondary winding). As such, one winding of the transformer (typically the primary) functions as an input and the other winding (typically the secondary) functions as an output. Thus, for a transformer to function properly, an input signal is only provided to one winding such that the other can function as an output winding.

As claimed, the auxiliary winding is not functioning as a secondary winding of a transformer as taught by Hwu, but receives an input signal that is proportionally opposite to the input signal received by the primary winding such that the auxiliary winding functions to affect the admittance of the primary winding (i.e., decrease the primary winding's admittance), which increases the primary winding's quality factor. Hwu does not teach or suggest such coupling of an auxiliary winding to affect the admittance of the primary winding to produce a high-quality factor inductor. Therefore, the applicant believes that claim 1 overcomes the present 35 USC § 102 rejection.

Claim 9 includes a primary winding and an auxiliary winding, where the auxiliary winding functions to increase the quality factor of the primary winding. The applicant believes that the same reasons that distinguish claim 1 over the cited prior art is applicable in distinguishing claim 9 over the same cited prior art. Thus, the applicant believes that claim 9 overcomes the present 35 USC § 102 rejection.

Claims 2-5, 7, and 8 are dependent upon claim 1, which has been shown to overcome the present 35 USC § 102 rejection. Since each of claims 2-5, 7 and 8 introduce additional patentable subject matter when taken in context with claim 1, the applicant believes that claims 2-5, 7, and 8 overcome the present 35 USC § 102 rejection.

Claims 10-12, 14 and 15 are dependent upon claim 9, which has been shown to overcome the present 35 USC § 102 rejection. Since each of claims 10-12, 14 and 15 introduce additional patentable subject matter when taken in context with claim 9, the applicant believes that claims 10-12, 14 and 15 overcome the present 35 USC § 102 rejection.

5. Claims 6 and 13 have been rejected under 35 USC § 103 (a) as being unpatentable over Hwu. In particular, the Examiner states that Hwu discloses the claimed invention except for the poly-silicon material used as a shield. The applicant respectfully disagrees that Hwu discloses the claimed and reasserts the arguments presented above. As, the applicant believes that claims 6 and 13 overcome the present 35 USC § 103 rejection.

6. For the foregoing reasons, the applicant believes that claims 1-15 are in condition for allowance and respectfully request that they be passed to allowance.

7. The Examiner is invited to contact the undersigned by telephone or facsimile if the Examiner believes that such a communication would advance the prosecution of the present invention.

RESPECTFULLY SUBMITTED,

By:



Timothy W. Markison
Registration No. 33,534
Phone: (512) 342-0612
Fax No. (512) 342-1674

CERTIFICATE OF MAILING

37 C.F.R. 1.8

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner of Patents and Trademarks, Alexandria, Virginia 22313, on the date below:

10/20/03

Date



Signature